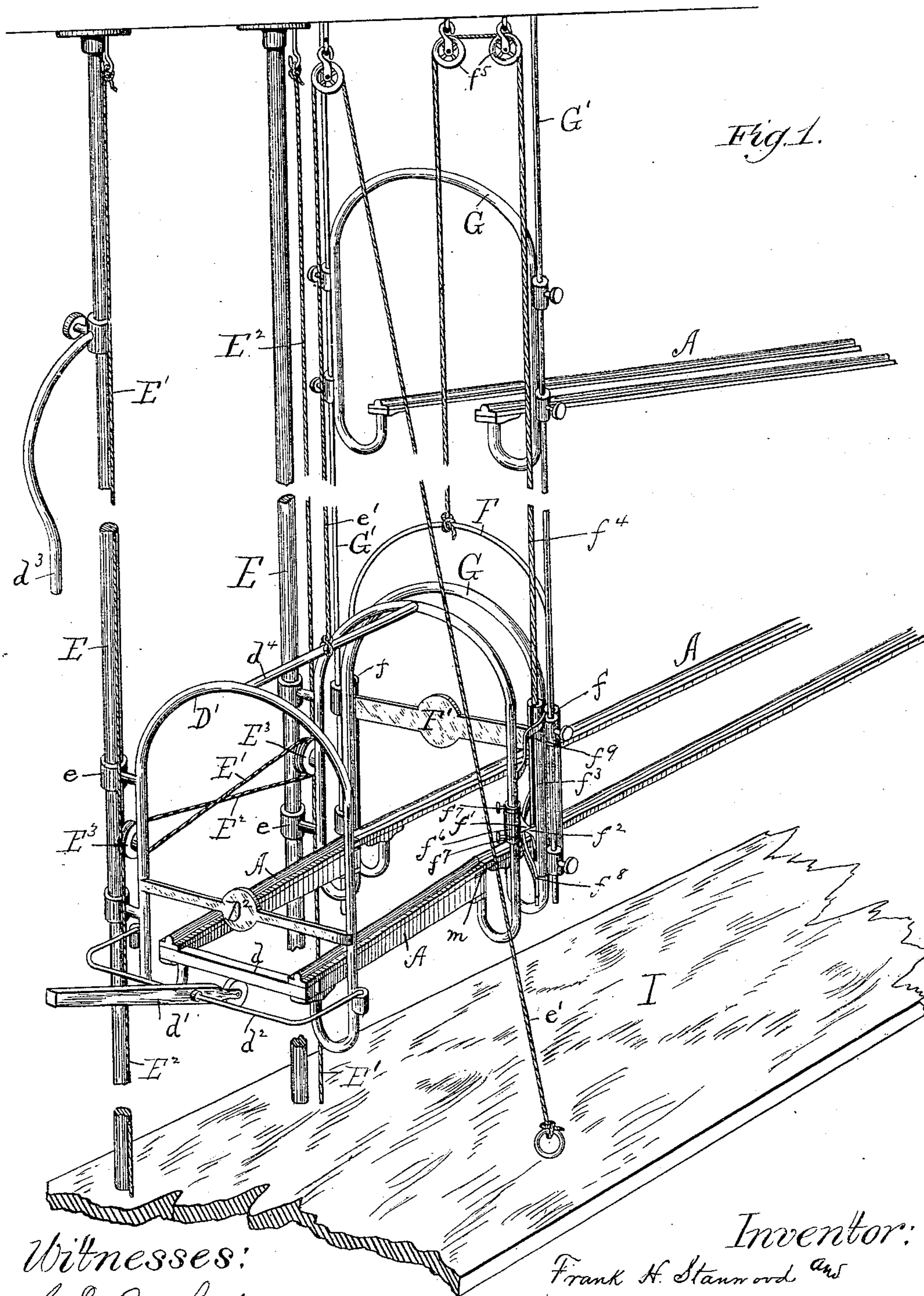


2 Sheets—Sheet 1.

STORE SERVICE APPARATUS.

Patented Aug. 7, 1883.



Witnesses:
C. C. Gaylord.
J. Everett Brown

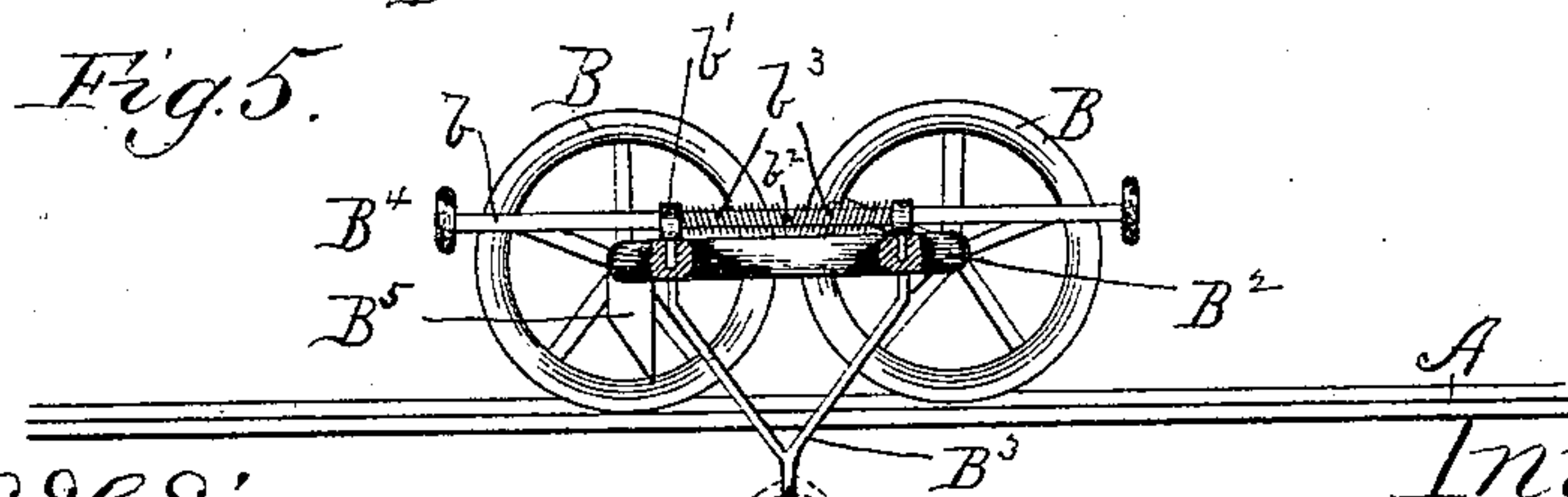
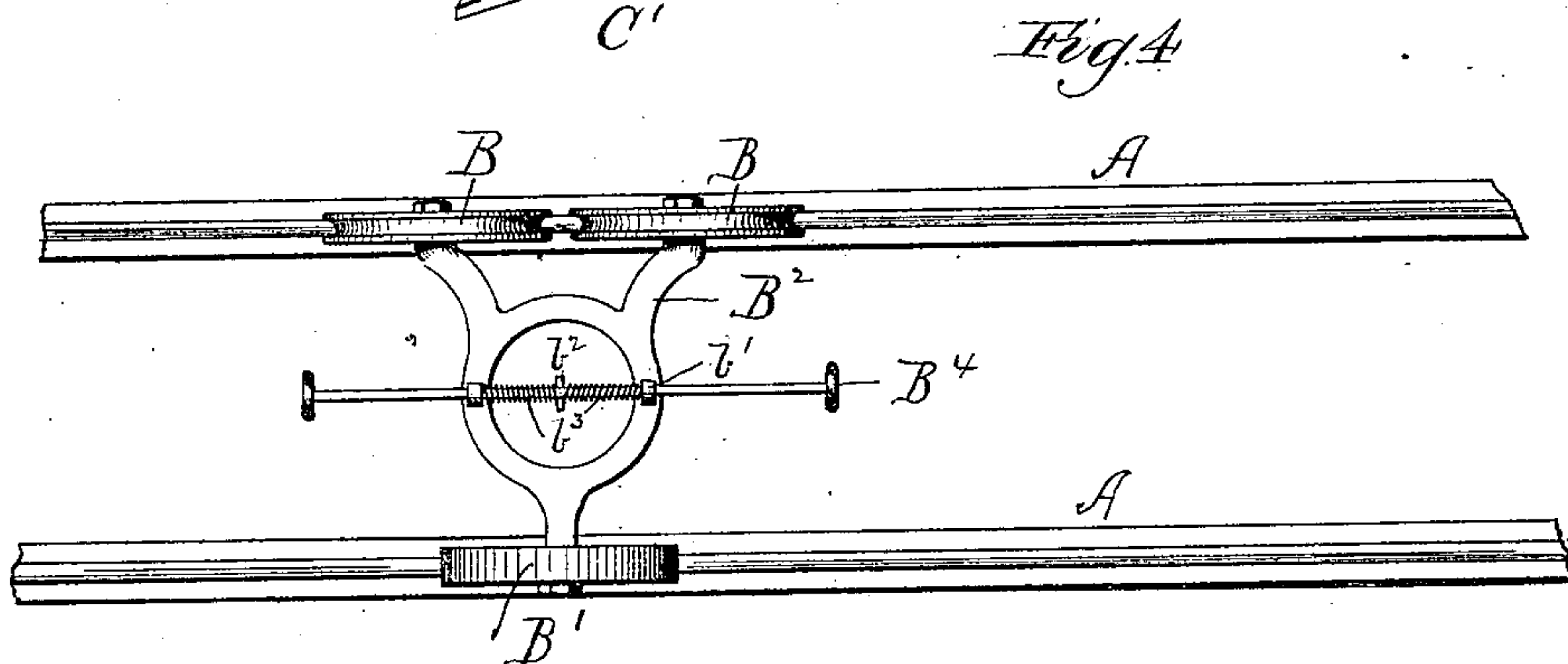
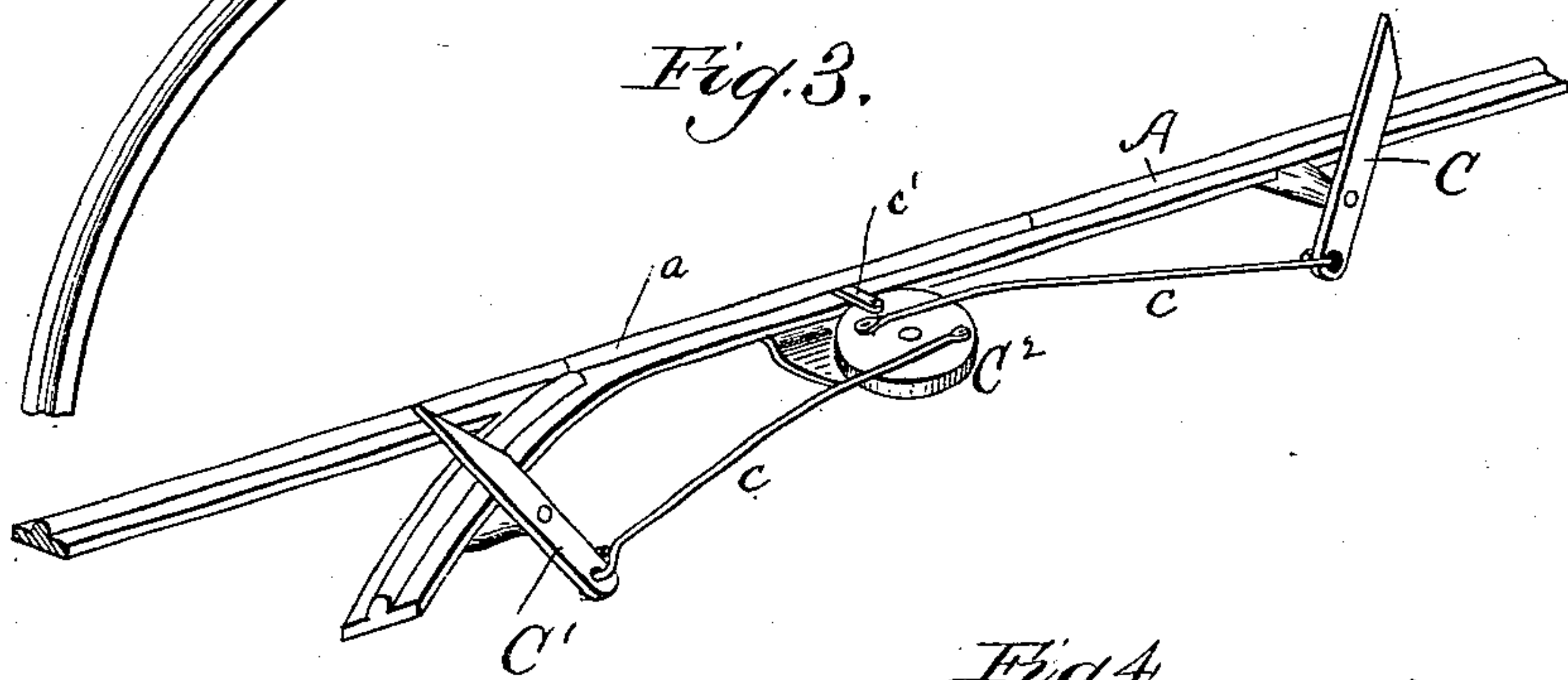
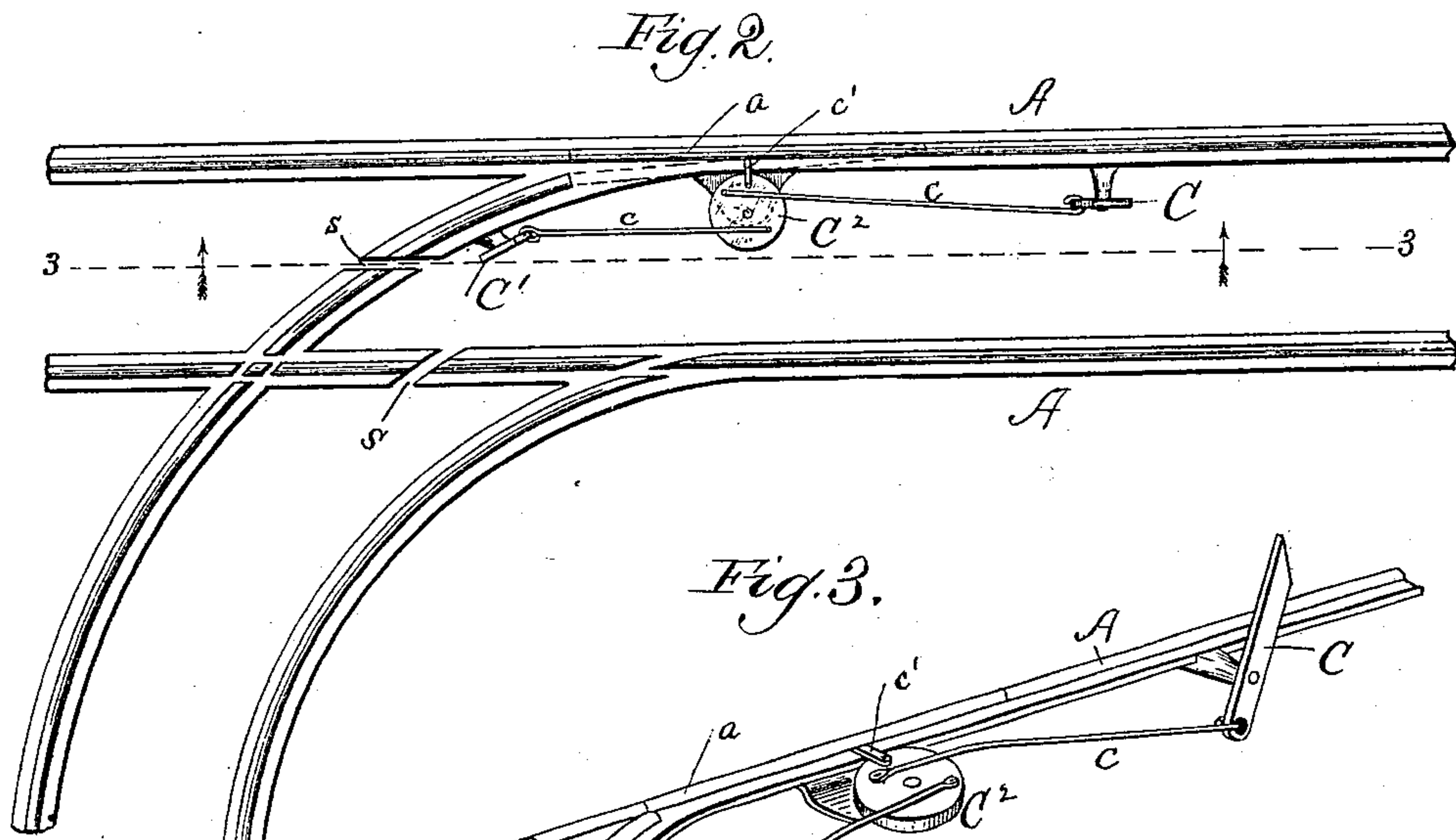
Inventor:
Frank H. Stannord and
Morgan B. Miller by
Munday Evans & Adcock
their attys.

F. H. STANWOOD & M. B. MILLER.

STORE SERVICE APPARATUS.

No. 282,582.

Patented Aug. 7, 1883.



Witnesses:
C. C. Gaylord.
J. Everett Brown

Inventor:
Frank H. Stanwood
and Morgan B. Miller
by Munday Evans & Adcock
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UNITED STATES PATENT OFFICE.

FRANK H. STANWOOD AND MORGAN B. MILLER, OF CHICAGO, ILLINOIS.

STORE-SERVICE APPARATUS.

SPECIFICATION forming part of Letters Patent No. 282,582, dated August 7, 1883.

Application filed April 23, 1883. (No model.)

To all whom it may concern:

Be it known that we, FRANK H. STANWOOD and MORGAN B. MILLER, citizens of the United States, residing in Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Store-Service Apparatus, of which the following is a specification.

In this invention the design has been to adapt the parcel or cash carriers now in use in stores to the carrying of larger and more weighty packages than is now permissible, and to otherwise improve the construction of the apparatus.

The invention consists in the novel combinations and details hereinafter set forth.

The accompanying drawings show at Figure 1 a perspective view of our invention. Fig. 2 is a plan view of one of the switches. Fig. 3 is a section of the track in perspective upon the line 3 3 of Fig. 2. Fig. 4 is a plan, and Fig. 5 is a central vertical section of one of the carriages.

In the drawings, A A represent the tracks or railways of our improved apparatus, inclined as usual in apparatus of this kind, so that one line thereof will conduct the carriage from the customers' counter I to the central station or cashier's stand, and the other line will return the carriage to the counter. We employ double tracks, as illustrated, and prefer that both of them should be provided with the raised ridge or head customarily used with flanged wheels, for reasons presently stated. Upon these railways are operated cash and package carrying vehicles having two wheels, B B, (one or both of which are flanged,) with inner and outer flanges, as shown, upon one side and running upon the same rail, and one or two supporting unflanged wheels, B', upon the other rail, all being connected by the frame B², the arms of which may serve as the axes for the wheels. Depending centrally from the frame is the hook B³, upon which the bag, basket, or other receptacle containing the articles to be carried is suspended. These cars are also provided with bumpers B⁴ at each end, such bumpers being attached to the opposite ends of a rod, b, secured upon the frame B² by eyes b' b', and provided between said eyes, at either side of the center cross-pin, b², with

an encircling spring, b³. By these bumpers the contact of the cars, both with each other and the gates and elevator-cages, is cushioned and softened. By providing the wheels upon one rail with flanges and making those upon the other rail with unflanged treads, as shown, the former are made to guide the car without assistance from the latter, thereby enabling the car to be switched by a movable section in one rail of the track only. The unflanged wheels also permit lateral movement, so that the car is free to be controlled by the flanged wheels. We prefer, also, two flanged wheels to a single one, because the car is more certainly directed by two than by one, and also because the two prevent undue lateral movement by either end. The plain wheels permit the car to follow the sinuosities of a single track, instead of compelling it to follow those of both tracks, and by using the ribbed rail said wheels accommodate themselves to such sinuosities more easily than they would if a flat track were used, so that the danger of jumping the track is lessened.

Where side tracks are requisite the cars are made to switch themselves off from the main track onto the side tracks and to replace the switches by means of arms B⁵ borne thereon, which come in contact with the upstanding pivoted levers C C', attached by rods c c to lever C², so as to oscillate the latter and cause it and the link c', connecting it with the movable section a of the track, to turn said movable section into position with the switch-track and then move it back. The first of these movements of the switch is given by the lever C and the return movement by the lever C', the arms B⁵ striking both of said levers at each passage. Of course where the load is suspended below the car, as in my apparatus, the tracks must be cut, as shown at s, to permit the passage of the hook B³ or the device employed in lieu of such hook.

Where a multiplicity of switches is employed, the arms and levers whereby they are operated are varied either in relative length or in their location relative to the tracks, so that the arms will strike no levers but those of the switch to which the cars carrying them belong.

At the counter where the sale is made is

located an elevating-cage, whereby the car is raised and sent upon its mission along the upper track to the cashier or other person whose duty it is to check the goods sold, or to wrap them up for delivery to the customer. This cage also receives the car when it is returned. It carries a section of track, A A, pivoted at *m* in the supporting arched brace D, and loosely resting at the other end upon the ends of the mate brace D'. At said other end the two parts of the track are united by a cross-brace, *d*, under which rests the end of a tipping-lever, *d'*, supported upon a yoke, *d''*, secured to the brace D'. We call this lever *d'* a "tipping-lever" because when the cage is raised it comes in contact with a stop device, *d'''*, which compels it to elevate or tip the outer end of track in the cage, and so change the inclination thereof that the car will be discharged from the cage. The cage moves up and down upon guide-rods E E, to which it is attached by encircling slides *e e*. Power for the up movement is communicated by the clerk through the cord *e*, attached to brace *d''*, connecting braces D and D', the down movement being by gravity. In order that the cage may travel upon the guides with steadiness, we apply to it a device consisting of two cords, E' E'', and pulleys E³ upon opposite ends of the cage, each of said cords being fastened to stationary points above and below, and passed under one and over the other of said pulleys, as shown.

At the end of the return-track a gate is located, whereby any car which may come in on that track while the cage is raised will be detained and prevented from falling out. This cage may be made of a bowed wire, F, the feet of which are inclosed by guides *f*, and a bumping cross-bar, F'. It is raised automatically by the descent of the cage, the projecting point *f'* upon the latter striking a foot, *f''*, sliding in and standing out from a slot in the cylindrical guides *f'''*, said foot being connected to a cord, *f''''*, passing over sheaves *f'''*, thence to the gate. When the cage rises the gate falls by gravity, being no longer prevented from doing so by the contact between the parts *f'* and *f''*.

It is often desirable to lower the cage to a point below the level of the "in" or return track, and to permit this we turn the point *f'*, which is attached to a loose ring, *f''*, confined on the brace D by collars *f'''*, so it will avoid the foot *f''* in the farther descent by means of the stationary cam *f''''*. The foot is given leeway to descend with the point *f'* until the latter clears it, when it rises by the gravitation of the gate. The point *f'* is moved back to its first position by raising the cage sufficiently to bring said point under the influence of another stationary cam, *f''''''*, whose function it is to effect that result.

The ends of the two lines of railway are supported upon the inwardly-turned feet of arched braces G G, similar to the cage-braces D and D', and said braces G G' are in turn supported upon pendent rods G' G'. The cage is sup-

plied with a cross-bar, D², secured to the brace D', which receives the impact of the car-bumpers, and is similar to the bar F' in the gate. 70

It will be noticed that the gate is always in position to intercept the returning car when the cage is either above or below the receiving position, and that the ends of the railways are in the same vertical line, so that the same cage is employed both to receive and dispatch the car. 75

By the use of our apparatus packages of any weight which the railway will sustain and of almost any size and shape may be conveyed with ease. The cage and other apparatus at the counter may be duplicated at the cashier's stand, if desired. 80

The switch we have shown is of the stub variety, as it will be understood that the split switch could not be employed with wheels flanged upon both sides. We are of course aware that single-rail switches are old; but they have always been of the split kind. 85

We claim— 90

1. In a parcel-carrying apparatus, the combination of double-track railways and a car having flanged guide wheel or wheels running upon one rail only and unflanged supporting wheel or wheels only upon the other rail, substantially as specified. 95

2. In a parcel-carrying apparatus, the combination of double-track railways and a car having two flanged guide-wheels running on the same rail and an unflanged supporting wheel or wheels only running on the other rail, substantially as specified. 100

3. In a parcel-carrying apparatus, a double-track main and side railway provided with a stub-switch in one rail only, combined with a vehicle having a double-flanged guide-wheel riding upon the switch-rail, substantially as specified. 105

4. The switch for parcel-carrying apparatus, composed of the moving rail-section, the pivoted levers, the oscillating lever, and the connecting devices, substantially as specified. 110

5. The railway provided with a switch composed of the moving rail-section, the pivoted levers, and the devices connecting said moving section and said levers, in combination with vehicles traveling upon said railway and provided with tripping-arms actuating said levers to open and close the switch, substantially as specified. 115

6. In a parcel-carrying apparatus, the combination, with the railway having a number of switches, each provided with actuating-levers, substantially as specified, of vehicles traversing said railway and provided with tripping-arms which strike said levers, said arms and levers being relatively so dimensioned or located that said arms will strike only the levers at the switch to which the car is destined, substantially as specified. 120

7. In combination with the dispatching and return tracks of a parcel-carrying apparatus, the ends of said tracks being in line with each other vertically, a single cage for elevating the 125

cars to the dispatching-track and for receiving them from the return-track, substantially as specified.

5 8. In a parcel-carrying apparatus, a car supported upon a double-track switch-railway and carrying its load by a suspension device depending centrally therefrom, in combination with such railway, having its rails cut at s , substantially as specified.

10 9. The cage having the tipping-section of railway-track, the lever for causing such tipping, and the stop for actuating the lever, all combined and operating substantially as specified.

15 10. The cage having the tipping-section of track, the lever for causing such tipping, and the stop for actuating the lever, all combined with a dispatching-track and a device for elevating the cage, substantially as specified.

20 11. The gate, the devices by which it is raised by the movement of the cage, and the cage, all

combined and operating substantially as specified.

12. The combination, with the cage having the projecting point f' , of the gate suspended 25 by a cord to which the foot f^2 is attached, substantially as specified.

13. The combination of the cage having the revoluble point f' , the foot f^2 , connected to the gate, the cams f^8 and f^9 , and the gate, sub- 30 stantially as specified.

14. The combination, with the cage, of the cords E' and E^2 and the pulleys E^3 E^3 , arranged and operating substantially as specified.

FRANK H. STANWOOD.

MORGAN B. MILLER.

Witnesses to signature of Stanwood:

EDW. S. EVARTS,

H. M. MUNDAY.

Witnesses to signature of Miller:

WARREN A. WOODWORTH,

ROBERT HARTLEY.